

What is claimed is:

1. A heat energy conversion system comprising,
a transducer adapted to generate a basic voltage from a heat source,
an inverter charger operative for increasing said basic voltage to an operating voltage
5 having a predetermined voltage level,
a charge storage means adapted for receiving said operating voltage from said inverter
charger and for retaining said operating voltage therein,
a control means operative to regulate charging operation of said charge storage means for
maintaining said charge storage means at a fully charge condition all the time,
10 a output means operative for delivering said operating voltage from said charge storage
means to a load.
2. A heat energy conversion system according to Claim 1 wherein said transducer is a
thermoelectric module.
3. A heat energy conversion system according to Claim 1 wherein said transducer is a
15 thermopile, and said charge storage means is a super capacitor.
4. A heat energy conversion system according to Claim 3 wherein said heat source is a burner
flame generated by a pilot burner of a heating furnace.
5. A heat energy conversion system according to Claim 4 including a regulation means
operating with said control means for actuating said pilot burner to turn on said flame selectively
20 in predetermined time intervals for maintaining said super capacitor fully charged and in an
event when additional voltage is required by said load.
6. A heat energy conversion system according to Claim 5 wherein said regulation means is

connected to a spark generator unit of said heating furnace and operative to actuate said spark generator unit to turn on said pilot burner to generate said flame.

7. A heat energy conversion system according to Claim 6 including a potentiometer in conjunction with two series resistor connected to said regulator means, operative for varying the voltage level of said operating voltage for charging said super capacitor in said time intervals.

8. A heat energy conversion system according to Claim 7 including a control circuit means connected to said regulation means and a main control valve for controlling actuation of a main burner control valve of said heating furnace and operative for actuating said main burner control valve by said operating voltage after said pilot burner has been actuated for a predetermined period of time.

9. A heat energy conversion system comprising,

a thermopile located on an inner surface of a vertical heat conducting flue wall of a heating, cooling and venting equipment, said thermopile being operative for generating a basic voltage when said flue wall is heated,

a pilot burner located in said equipment adapted to generate a pilot flame for heating an outer surface of said flue wall,

an inverter charger operative for increasing said basic voltage to an operating voltage having a predetermined voltage level,

a super capacitor coupled to said inverter charger and adapted to be charge by said inverter charger to store said operating voltage therein,

a regulator means coupled to said super capacitor and operative to maintain said super capacitor fully charged,

a pilot control valve coupled to said regulator means and operative to actuated said pilot burner to generate said pilot flame selectively in predetermined time intervals and at occasion when said operating voltage is required by a load.

- 5 10. A heat energy conversion system according to Claim 9 including a heat exchanger attached to said thermopile, an air circulation means operative by said operating voltage from said super capacitor for circulating air through said heat exchanger to extract heat therefrom to a room to be heated.
11. A heat energy conversion system according to Claim 9 including a heat pipe connected to said flue wall and a heat conducting member operative to be heated by an external heat source.
- 10 12. A heat energy conversion system according to Claim 11 wherein said external heat source is provided selectively by an wood fire, solar heat, hot spring, volcanic pool.
13. A heat energy conversion system according to Claim 12 including a fluid pressure vessel adapted to receive heat from said heat source, a fluid having a low boiling point located in said fluid pressure vessel and operative to generate a vapor pressure, a turbine coupled to said
- 15 pressure vessel and operative to be driven by said vapor pressure to provide a mechanical motion output.
14. A heat energy conversion system according to Claim 13 wherein said mechanical motion output is used to operate said air circulating means.